

IN THE SPECIFICATION:

Please amend paragraph number [0050] as follows:

[0050] The  $\text{RuSi}_x\text{O}_y$ -containing diffusion barrier layers of the present invention have numerous and varied applications in the area of semiconductor device and semiconductor structure fabrication. For example, the use of  $\text{RuSi}_x\text{O}_y$ -containing diffusion barrier layers of the present invention is described with reference to FIG. 7, wherein a contact liner requiring diffusion barrier characteristics is described. More specifically, device structure 70 is fabricated in accordance with conventional processing techniques through the formation of contact opening 102 prior to metallization of the contact area 94 of substrate 80. As such, prior to metallization, the device structure 70 includes field oxide region 82 and active areas (represented by regions of substrate 80 not covered by field oxide). Word line 92 and field effect transistor (FET) 90 are formed relative to the field oxide regions 82 in the active areas. Suitably doped source/drain regions 84, 86 are formed by conventional methods known to one of ordinary skill in the art. A conformal layer of oxide material 88 is formed thereover and contact opening 102 is defined therein to the contact area 94 of doped source region 84 of silicon substrate 80. Thereafter, one or more metallization or conductive layers (*e.g.*, titanium nitride or other diffusion barrier materials) are formed in the contact opening 102 for providing electrical connection to source region 84. Preferably, contact liner 100 is a  $\text{RuSi}_x\text{O}_y$ -containing diffusion barrier layer formed according to the present invention on bottom surface 96 and the one or more ~~side walls~~ sidewalls 98 defining the contact opening 102. The  $\text{RuSi}_x\text{O}_y$ -containing diffusion barrier layer is generally deposited over the entire substrate assembly and then planarized to form the contact liner 100. Thereafter, a conductive material 104 (*e.g.*, aluminum, W, Cu) is formed in the contact opening for providing connection to doped source region 84 of substrate 80.

Please amend paragraph number [0073] as follows:

[0073] It will be recognized by a person having skill in the art that, in addition to the embodiments described herein, the present invention may be carried out to include controlled deposition of one or more "monolayers" of  $\text{RuSi}_x\text{O}_y$ -containing barrier layer(s). This process, typically referred to as atomic layer deposition, atomic layer epitaxy, sequential layer deposition, or pulsed-gas CVD, involves use of a precursor based on self-limiting surface reactions. Generally, a substrate is exposed to a first species that deposits as a monolayer and the monolayer then being exposed to a second species to form a new layer plus gaseous byproducts. The process is typically repeated until a desired thickness is achieved. Atomic layer deposition and various methods to carry out the same are described in U.S. Patent 4,058,430 to Suntola et al., entitled "Method for Producing Compound Thin-Films, Films;" U.S. Patent 4,413,022 to Suntola et al., entitled "Method for Performing Growth of Compound Thin-Films, Films;" Ylilammi, "Monolayer Thickness in Atomic Layer Deposition," Thin Solid Films 279 (1996) ~~124-130~~, 124-130; and S.M. George et al., "Surface Chemistry for Atomic Layer Growth," J. Phys. Chem. 1996, 100, ~~13121-13131~~, 13121-13131; the disclosures of each such document are hereby incorporated by reference.